WHAT IS CLAIMED IS:

1. A method of controlling forward link transmission power in a mobile communication system, where a mobile terminal generates a power control command based on a received frame, said received frame including a plurality of slots, each of said plurality of slots including power control bits and non-power control bits the method comprising the steps of:

providing a first ratio of an energy of the non-power control bits to an energy of the power control bits; and

generating a power control command bit based on the ratio.

2. The method as claimed in claim 1, further comprising the steps of:

detecting cyclic redundancy check (CRC) information if the frame includes the CRC information;

performing a cyclic redundancy check (CRC) on the frame using the detected CRC information; and

generating the power control command for reducing the forward link transmission power if the CRC check indicates no errors in the frame.

3. The method as claimed in claim 2, further comprising the step of:

generating the power control command for increasing the forward link transmission power if the CRC check indicates errors in the frame.

4. A method of controlling forward link transmission power in a mobile communication system, where a mobile station generates a power control command based on a received frame, said received frame including cyclic redundancy check (CRC)

bits and a plurality of slots, each of said plurality of slots including power control bits and traffic symbol bits, the method comprising the steps of:

detecting the CRC bits of a frame and generating a power control decrease command if the CRC bits are detected;

if the CRC bits are not detected, determining whether a control-to-noise ratio is good or bad, said control-to-noise ratio being a ratio of an accumulated energy value of the power control bits in the slots of said frame to an accumulated energy value of noise in the slots of said frame;

generating, if the control-to-noise ratio is bad, a forward link power control increase command;

determining, if the control-to-noise ratio is good, whether traffic symbol bits exist in slots of the frame based on a traffic-to-control ratio, said traffic-to-control ratio being a ratio of an accumulated energy value of the traffic symbol bits in the slots to the accumulated energy value of the power control bits;

generating, if it is determined that traffic symbol bits do not exist, a forward link power control decrease command; and

generating, if it is determined that traffic symbol bits exist, the forward link power control increase command.

5. A method of controlling forward link transmission power in a mobile communication system capable of discontinuous transmission mode, where a terminal generates a power control command for controlling the forward link transmission power, the method comprising:

a first step of determining whether an energy of power control bits of a received frame is more than a first threshold value, said first threshold value determined as a minimum value for receiving data;

a second step of determining that a channel state is good if the first step determines that the energy of the power control bits is more than the first threshold value; and

a third step of determining that the channel state is bad if the first step determines that the energy of the power control bits is less than the first threshold value.

6. The method as claimed in claim 5, further comprising:

a fourth step of determining whether data decoded prior to the first step has been correctly decoded if the received frame includes cyclic redundancy check (CRC) information; and

a fifth step of determining that the frame is good if it is determined that the data has been correctly decoded at the fourth step, or performing the first step if it is determined that the data has not been correctly decoded.

7. A forward power control method for performing forward link transmission power control using a power control command received from a terminal in a mobile communication system capable of discontinuous transmission mode, the method comprising:

a first step of transmitting power control bits for power control decrease if a channel state signal of "sufficient" is received from the terminal; and

a second step of transmitting power control bits for power control increase if a channel state signal of "insufficient" is received from the terminal.

8. A forward power control method for performing forward link transmission power control using a power control command received from a terminal in a mobile communication system capable of discontinuous transmission mode, the method

comprising:

a first step of checking whether a previous frame has been transmitted when a power control command is received from the terminal;

a second step of transmitting, if it is determined that the previous frame has been transmitted, power control bits for power decrease if the power control command received from the terminal indicates that data has been received by the terminal in a good state;

a third step of transmitting, if it is determined that the previous frame has been transmitted, power control bits for power increase if the power control command received from the terminal indicates that data has been received by the terminal in a bad state;

a fourth step of transmitting, if it is determined that the previous frame has not been transmitted, power control bits for power decrease if the power control command received from the terminal indicates that no data has been received by the terminal; and

a fifth step of transmitting, if it is determined that the previous frame has not been transmitted, power control bits for power increase if the power control command received from the terminal indicates that data has been received by the terminal.

9. The method as claimed in claim 8, wherein the power control command is a data state signal of "good" in the second step, and a data state signal of "bad", "uncertain", or "pass" in the third step.

10. The method as claimed in claim 8, wherein the power control command is a data state signal of "pass' at the fourth step, and a data state signal of "good", "uncertain", or "bad" in the fifth step.

11. An apparatus for controlling a forward link transmission power in a

mobile communication system, where a terminal generates a power control command based on a received frame, said received frame including a plurality of slots, each of said plurality of slots including power control bits, the apparatus comprising:

a calculator for calculating a control-to-noise ratio, said control-to-noise ratio being a ratio of an accumulated energy value of power control bits in the slots of a received frame to an accumulated energy value of noise in the slots of the received frame; and

a control section for generating a power control command based on a traffic-to-control ratio when the calculated control-to-noise ratio is good, said traffic-to-control ratio being a ratio of an accumulated energy value of traffic symbol bits in the slots of the received frame to the accumulated energy value of the power control bits.

12. An apparatus for detecting whether received data exists while in discontinuous transmission mode, the apparatus comprising:

a location detector for detecting a location of energy of power control bits and a location of energy of non-power control bits of a received signal;

a first energy measuring device for measuring energy of a signal corresponding to the location of the non-power control bits outputted from the location detector and for outputting said measure;

a second energy measuring device for measuring energy of a signal corresponding to the location of the power control bits outputted from the location detector and for outputting said measure; and

a control section for determining whether data exists in the received signal by calculating a ratio of the output of the first energy measuring device to the output of the second energy measuring device.

13. The apparatus as claimed in claim 12, further comprising:

a decoder for performing a cyclic redundancy check (CRC) when the transmitted data includes CRC information, wherein the control section determines whether or not the data exists with a value of the CRC state.

14. The apparatus as claimed in claim 12, wherein the control section comprises:

an energy ratio calculator for calculating a ratio of the measured energy value output of the first energy measuring device to an measured energy value output of the second energy measuring device and for outputting said measured energy ratio;

a first comparator for comparing the output measured energy ratio of the energy ratio calculator with a predetermined threshold value, said predetermined threshold value determined according to the existence or nonexistence of data; and

a controller for detecting whether data exists in the received signal according to the output of the first comparator.

15. The apparatus as claimed in claim 14, wherein the control section further comprises:

a decoder for performing a cyclic redundancy check (CRC) if CRC information is included in the received data;

wherein the controller detects whether data exists in the received signal according to an output of the decoder and the output of the first comparator.

16. The apparatus as claimed in claim 15, wherein the control section further comprises:

a second comparator for comparing, if data exists, an accumulated energy value of

the power control bits with a minimum threshold value;

wherein the control section detects whether data exists in the received signal according to the CRC state value, the output of the first comparator, and an output of the second comparator.

17. An apparatus for detecting whether data exists in a received signal when in discontinuous transmission mode, and for transmitting a result of detection as a power control command, the apparatus comprising:

a location detector for detecting a location of energy of power control bits and a location of energy of non-power control bits of the received data;

a first energy measuring device for measuring energy of a signal corresponding to the location of the non-power control bits outputted from the location detector and for outputting said measure;

a second energy measuring device for measuring energy of a signal corresponding to the location of the power control bits outputted from the location detector and for outputting said measure; and

a control section for determining whether data exists in the received signal by calculating a ratio of the output of the first energy measuring device to the output of the second energy measuring device, and for generating a power control command according to a determination; and

a transmitter for transmitting the power control command.

18. The apparatus as claimed in claim 17, further comprising:

a decoder for performing a cyclic redundancy check (CRC) when the transmitted data includes CRC information;

wherein the control section determines whether data exists in the received signal

using a value of the CRC state.

19. The apparatus as claimed in claim 17, wherein the control section comprises:

an energy ratio calculator for calculating a ratio of the measured energy value output of the first energy measuring device to an measured energy value output of the second energy measuring device and for outputting said measured energy ratio;

a first comparator for comparing the output measured energy ratio of the energy ratio calculator with a predetermined threshold value, said predetermined threshold value determined according to the existence or nonexistence of data; and

a controller for detecting whether data exists in the received signal according to the output of the first comparator.

20. The apparatus as claimed in claim 19, wherein the control section further comprises:

a decoder for performing a cyclic redundancy check (CRC) if CRC information is included in the received data;

wherein the controller detects whether data exists in the received signal according to an output of the decoder and the output of the first comparator.

21. The apparatus as claimed in claim 20, wherein the control section further comprises:

a second comparator for comparing, if data exists, an accumulated energy value of the power control bits with a minimum threshold value;

wherein the control section detects whether data exists in the received signal according to the CRC state value, the output of the first comparator, and an output of the

second comparator.

22. An apparatus for controlling forward link transmission power according to a power control command included in data received while in a discontinuous transmission mode, the apparatus comprising:

a power control command demodulator for extracting the power control command from the received data to provide the power control command;

a controller for combining demodulated information and information representing whether a previous frame has been transmitted, for generating and outputting power control bits for performing a power decrease only when the two information coincide; and

a forward transmitter for transmitting data and power control bits under the control of the controller.

23. The apparatus as claimed in claim 22, wherein, if the power control command comprises one bit representing two receiving states of "sufficient" and "insufficient", the power control bits for performing power decrease are generated if the power control command represents the "sufficient" state, while the power control bits for performing power increase are generated if the power control command represents the "insufficient" state.

24. The apparatus as claimed in claim 22, wherein, if the power control command comprises two bits representing four frame states of "good", "uncertain", "pass", and "bad", the power control bits for performing power decrease are generated only when the power control command coincide with the information representing whether the previous frame has been transmitted, while the power control bits for

performing a power increase are generated if not.